Table 2a. Cancer Risks from individual Chemical Components in Cigarette Smoke: Mainstream Smoke

Cancer Risk Rank (Mainstream)	Chemical	Cancer Risk per Cigarette/day*	IARC Classification (as of October 1999)
1	1,3 - Butadiene	8.6E-04	2A
2	Chlorinated dioxins	7.0E-05	1
3	Acrylonitrile	6.4E-05	2B
4	Arsenic	6.0E-05	1
5	Acetaldehyde	4.9E-05	2B
6	Benzene	3.3E-05	1
7	NNN	1.9E-05	2A
8	NP	1.7E-05	2B
9	Cadmium	1.1E-05	1
10	Formaldehyde	5.0E-06	2A
11	Hydrazine	4.1E-06	2A
12	NNK	3.0E-06	2B
13	NDMA	2.7E-06	2A
14	NDEA	2.1E-06	2A
15	Chromium	1.5E-06	1
16	NEMA	1.3E-06	2B
17	NBA	9.4E-07	2B
18	2-Aminonaphthalene	9.0E-07	1
19	Dibenzo(a,i)pyrene	7.0E-07	2A
20	Nitrosodiethanolamine	6.0E-07	2B
21	Benzo(a)pyrene	2.8E-07	2A
22	Dibenz(a,h)anthracene	2.3E-07	2A
23	Urethane	2.1E-07	2B
24	4-aminobiphenyl	1.8E-07	1
25	o-toluidine	1.5E-07	2B
26	Nickel	7.2E-08	1
27	Benzo(j)fluoranthene	3.8E-08	2B
28	Benzo(b)fluoranthene	3.6E-08	2B
29	Indeno(1,2,3-c,d)pyrene	3.3E-08	2B
30	Benzo(k)fluoranthene	2.5E-08	2B
31	Dibenz(c,g)carbazole	2.0E-08	2B
32	5-methylchrysene	1.7E-08	2B
33	Vinyl chloride	1.7E-08	1
34	Beryllium	1.5E-08	1
35	Benz(a)anthracene	1.3E-08	2B
36	Dibenz(a,j)acridine	7.5E-09	2B
37	Lead	3.8E-09	2B
38	Chrysene	3.6E-09	3
39	dibenz(a,h)acridine	2.8E-10	2B

* Calculated using published cancer potency factors (see Table 1) combined with quantitative estimates of chemical content in mainstream cigarette smoke (Table 1). Risk estimates are calculated on a per cigarette/day basis for a 70 kg person smoking for 35 years out of an average 70 year lifespan, and 100% absorption from mainstream smoke delivery measurements under standard smoking conditions is assumed. No complex toxicokinetic parameters were used (i.e. no synergism or antagonism was assumed). These risk estimates are rough calculations and should be viewed as a means to compare and prioritise relative risks rather than quantify true cancer risk probability.